Gram Sevak

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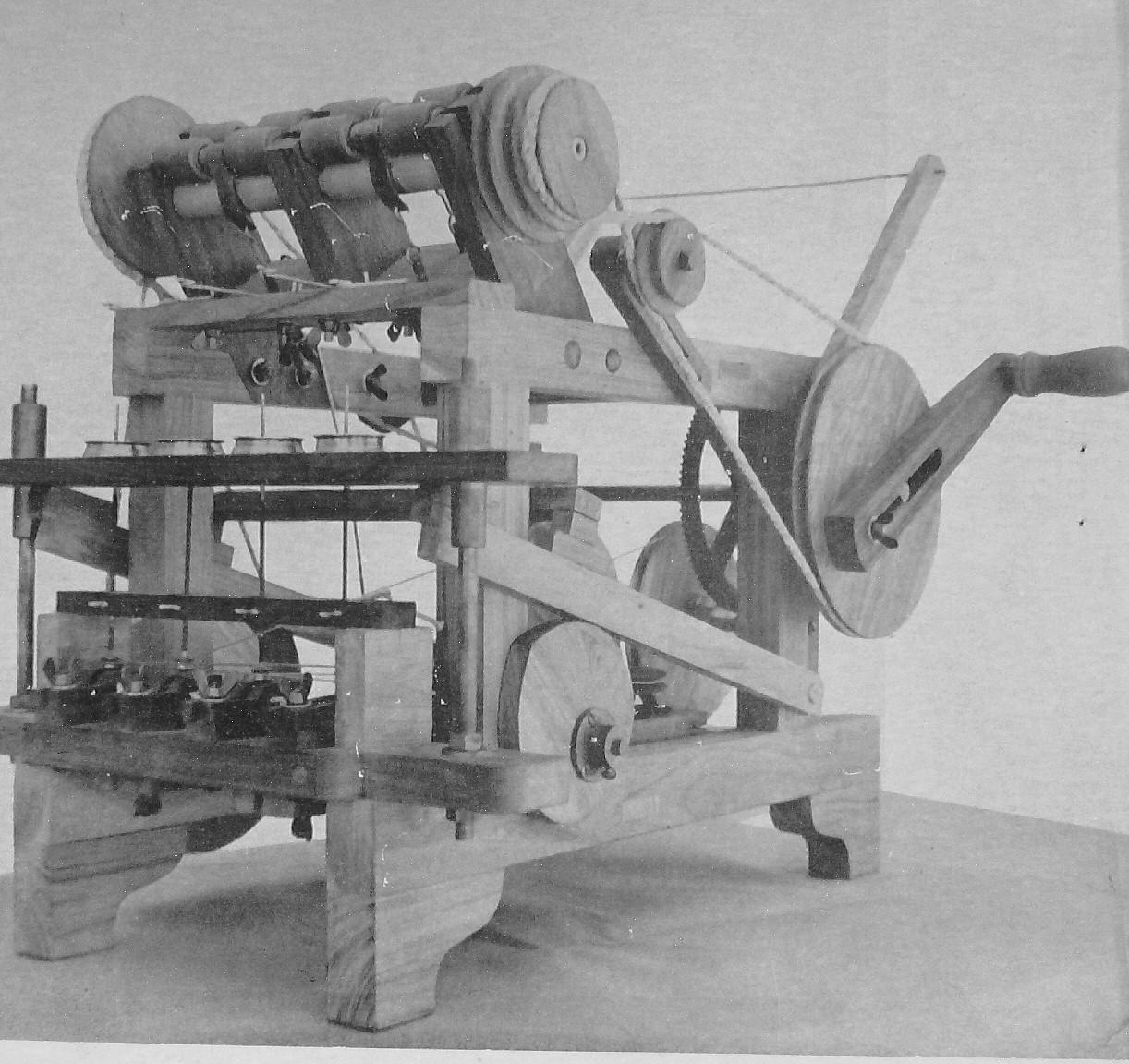
Hooka—symbol of peace and contentment. This worker who has a pile of raw-material at his back and is assisted by his wife, is busy smoking Hooka and making one at the same time.



Ambar Charkha: Four-spindled spinning unit that will satisfy clothing needs of millions of people.

GRAM SEVAK

Bhadra-Asvina 1880

Vol. 5. September 1958 No. 2.

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17 NOV 1958
RURAL EXTENSION TRAINING CENTRE

Metric Weights

B. R. Bhagat

It is said that the wheel was first devised in China but was used only for prayers. The principle of the wheel was taken from the Chinese by other people and applied to develop the science of mechanics. In the result, while mechanical traction helped industry in Europe to make rapid strides, China, tied to her human and animal labour lagged behind for centuries.

The zero was first invented in India nearly 2,000 years ago. To what extent the principle of the zero affected Indian systems of philosophy is an interesting subject for speculation. It is clear, however, that the mathematical implications of the zero, and decimals, were not exploited fully for application in the practical life of the Indian people.

DIFFERENT SYSTEMS

From the early middle ages to comparatively recent times, India remained divided into many kingdoms and principalities. Attempts to bring the country under one unified political system were only rarely and partially successful. A natural concomitant of the political fragmentation was disparity in economic tools and practices. Different areas of the country had different systems of coinage and different weights and measures.

Political fragmentation, natural limitations like mountain ranges and lack of navigable waterways and the static condition of technology resulted in a largely self-sufficient economy centred in individual villages. The disparate practices in coinage, currency, weights and measures must have been additional obstacles to the development of trade, commerce and industry between the different parts of the subcontinent. Significantly, it was Akbar, who among many monarchs alone came near achieving political unity, was the person who thought of instituting decimal systems of coinage, weights and measures in the country.

In Europe, however, and in America when it came to be discovered and developed, technological changes went on apace and with them the tools and practices of trade and commerce were sharpened and made more and more workable. It is interesting to recall that shortly after the American war of Independence, President Jefferson introduced the dollar divisible into 100 parts. It is also significant that shortly after the French Revolution, Talleyrand introduced the metric system which came to be of great help in the age, then just opening, of fast developing industry, trade and commerce in Europe.

It was not till well into the 19th century, however, that a unitary political consciousness emerged in India. Once

it emerged, it made rapid strides. The realisation of the need to have integrated economic tools operative all over the country was, however, a slow process. Although a law was passed in 1870 enabling the metric system to be adopted in the country, it remained a dead letter.

UNIFORM MEASURE

When political independence was achieved and the country became one political unit with the absorption of 600 odd princely States, the necessity of devising uniform economic tools for adoption at once came to the front. The urgency was accentuated by the realisation that the country was about to enter a phase of industrial and economic development the like of which was never seen in the previous millenniums of its history. It was foreseen that unless the basic economic tools were suitably adjusted here and now, adjustment in future would become more and more difficult. The case of the United Kingdom which still clings to the old system of pounds and shillings, tons and cwts., served much more as a warning than as an example.

At first it was felt that as the weights and measures reform would be the more important change, it should be adopted earlier than the reform in coinage. During the deliberations that ensued it came to be realised, however, that the coinage reform would be easier to put through and that once it was put through, it would help the people of the country in getting accustomed to the application of decimals in reckoning of all kinds and would thus facilitate the adoption of the reform in weights and measures.

DECIMAL SYSTEM

Events of the last year and a half bear witness to the wisdom and felicity of the decision to make decimal coinage the first priority. Before decimal coinage was inaugurated, there had been protests in different parts of the country from influential individuals that the people would not take kindly to the reform and that the disruption of old habits would create many complications. It is pleasing to note that these forebodings have been belied.

Decimal coinage was introduced on April 1, 1957 and the introduction was preceded and accompanied by suitable publicity measures to reach not only the towns people but as far as possible into the villages also. The new system in coinage has come to be accepted by the people with relatively very little fuss. There were a few difficulties in the initial stage over matters like the 13 nP postal charge, some coins carrying dots on their reverse side and others not and the discrepancy that while one anna is equal to 6 nP, 4 annas are equal to 25 nP. Within a short time, however, the people realised that some small difficulties are inherent in any large reform and that the best thing to do is not to reject the reform but to adapt oneself to it and point out constructively to what extent and how these small difficulties can be removed.

In the result, quite a few matters have been settled amicably between the public and bodies like post offices and transport authorities and a few small difficulties have come to be ignored. Decimal coinage has now come to be accepted all over the country; over 100 crores of pieces are already in circulation and the three mints at Calcutta, Bombay and Hyderabad between them are turning out more than three million pieces a day. The volume of the old coins in circulation is shrinking. The pie, the half-pice and the yellow nickel brass two-anna pieces will become obsolete in a few months.

Within the next three or four years, when the old coins are no longer to be seen, the decimal coinage system will be the only system in the country. People are already realising the advantages of calculation in terms of tens and this will facilitate the gradual adoption of the metric system in weights and measures.

ADOPTION

It will be unwise not to recognise that the application of the metric system to weights and measures will cause greater strain to the individual than did the adoption of decimal coinage. There may be difficulties here and there in the initial stages, but if the public shows intelligent understanding and confines cri-

ticism to constructive lines and if the Government can demonstrate that it is determined to do its very best to make the adoption of the metric system as painless as practicable, there is no doubt the neat pattern of the metric system will, in the course of a decade or so, supplant the present jungle of diverse and confusing methods of reckoning and will make for easier dealings in trade and commerce and easier development of industry.

The weights and measures reform may be more difficult than the reform in coinage, but there is no gainsaying that it has much greater potentialities. The decimal coinage reform was largely a matter of convenience but the weights and measures reform will combine with this the more important achievements of helping the nation to feel united within itself and bringing it nearer to other nations. The Punjabi measure, the Madrasi measure and the Bengali measure will disappear and in their place will come standards which are the same all over India and are also identical with the standards in the major part of the world.

An additional point of interest is that, in the process of adopting the metric system of weights and measures, no part of the country has an advantage over others and no part of the country suffers from a handicap. The reform is a stimulating challenge to be met by all and the benefits it will yield will be reaped by all.

YOUR HEIGHT AND WEIGHT—IN METRIC TERMS

The following table gives your weight in pounds, maunds and seers and kilograms (correct to ½ kilogram):

Pounds	*Maunds*	*Seers*	*Kilograms*
100	1	8.5	45.5
110	1	13.5	50
120	1	18.5	54.5
130	1	23	59
140	1	28	63.5
150	1	33	68
160	1	38	72.5
170	2	2.5	77

The following table gives your height correct to a centimetre:

Feet & Inches	*Metres*
4′ 10″	1.47
5′	1.52
5′ 2″	1.58
5′ 4″	1.63
5′ 6″	1.68
5′ 8″	1.73
5′ 10″	1.78
6′	1.83

THE NEW PATTERN

Since January 1957, we have become familiar with the report of daily temperatures in degrees Centigrate and rainfall in millimetres. In April 1957, decimal coinage came in by which the rupee was divided into 100 naye paise instead of 16 annas, 64 pice or 192 pies. From October, 1958, we shall have occasion to deal with weights and measures in the metric system, which is based on the decimal system just as the new coinage. All these changes are pieces of a vast pattern of reform in our weights and measures, which will be effected over a period of about 10 years i.e. 1966; the pattern is the unification of weights and measures system.

AFTER OCTOBER 1

On October 1, 1958, the metric system of weights and measures will be introduced in trade generally in selected areas in different States.

The introduction of the new system would be phased over a period of two or three years. During this transition period both the existing and the new systems would continue side by side.

Thus, on October 1, there would be no compulsion to use the metric weights. The change over is being effected in the same gradual manner throughout the country and the period of transition will be used to educate both the traders as well as the general public in the use of the new weights. Only when a degree of familiarity is achieved in their use, the new system will completely replace the old.

In the selected areas, where the system will be introduced on October 1, the use of the existing units will be permitted for a period of two years i.e., till September 30, 1960. The metric system will be gradually extended to larger areas where again a transitional period of two to three years will be allowed.

IN INDUSTRIES

Also the new system will be introduced on October 1, in major industries like cotton textiles, iron and steel, engineering, heavy chemicals, cement, salt, paper, refractories, non-ferrous metals, rubber and coffee. Even in these industries the use of existing units will be permitted for a period of two years and later it will be extended to other industries and economic activities.

In the major industries, the metric units will be used in the purchase of raw materials and sale of products. The change will be limited to transactions between mills and their suppliers and customers. Retail trade will not be affected.

JUTE

For the convenience of the jute industry, where the trading began on July 1, the system came into force on that day in wholesale transactions by mills in the jute industry.

From October 1, Government departments and industrial undertakings may use the metric system in the purchase and supply of stores. The Indian Airlines Corporation and Air India International Corporation will book cargo and luggage in metric weights and measures. New surveys of land and mines will be on metric scales. Metric units will also be used in technical, statistical, scientific and marketing data collected and published by Government departments.

The areas in which metric weights will be introduced on October 1, are as follows:

Andhra Pradesh

Districts of Visakhapatnam, Krishna, Guntur, Kurnool, Hyderabad, Warangal, Nizamabad.

Assam

Municipal areas of Gauhati and District of Nowgong.

Bihar

Divisions of Bhagalpur and Ranchi and the Municipal and Notified areas in the districts of Patna, Gaya, Arrah, Chhapra, Muzzafarpur, Champaran and Durbhanga.

Bombay

Municipal areas of Bombay, Poona, Ahmedabad, Rajkot, Baroda, Nagpur, Aurangabad, Sholapur, Kolhapur, Akola, Amravati, Wardha and Yeotmal.

Kerala

Districts of Kozhikode, Ernakulam and Quilon.

Madhya Pradesh

Districts of Bhopal, Indore, Gwalior and Jabbalpur.

Madras

Districts of Madras, Chingleput, South Arcot and North Arcot.

Mysore

Districts of Bangalore, Raichur and Dharwar.

Orissa

Municipal areas of Berhampur, Cuttack and Sambalpur.

Punjab

Districts of Amritsar, Jullundur, Ludhiana, Ambala, Patiala and Gurgaon.

Rajasthan

Districts of Ajmer, Bikaner, Jodhpur, Jaipur, Kotah and Udaipur.

Uttar Pradesh

Municipal areas of Meerut, Agra, Lucknow, Bareilly, Moradabad, Varanasi, Kanpur, Jhansi, Allahabad and Gorakhpur.

West Bengal

Municipal areas of Calcutta and Howrah.

In addition, the metric system will also be used in regulated markets in the States of Andhra Pradesh, Bombay, Madhya Pradesh, Madras, Mysore and Punjab.

In the case of Union Territories, on October 1, 1958 the metric system will be introduced in the whole of Delhi, in the two districts of Mandi and Sirpur in Himachal Pradesh, in the municipal areas of Imphal in Manipur, in the municipal area of Agartala in Tripura and in Port Blair in the Andaman and Nicobar Islands.

SOME FACTS

The metric system has been adopted legally by 77 countries, is optional in 16 countries.

The Asian countries which have legally adopted the metric system along with the year of change-over are: Afghanistan (1926), Cambodia (1914), China (1930), Indonesia (1938), Iran (1935), Israel (1954), Japan (1952), Jordan (1954), Philippines (1917), South Korea (1949), Suriman (1917), Syria (1935), Thailand (1936), and Viet-nam (South) (1911).

India would have gone 'metric' in 1871, had the Act which had been passed in India then been implemented by the Government of the day.

It was in the wake of the French Revolution that the proposal to introduce a uniform system of weights and measures was taken up in France.

FRANCE

The metric system was invented in France at the end of the eighteenth century to replace the multitude of weights prevailing in that country.

It was not till 1840 that the metric system could be fully enforced in France. The delay was due to the fact that 'transitional units' based on the old weights and measures were sought to be expressed in metric units without enforcing the metric units themselves. For example, a pound was made equal to 500 grams, but divided into 16 ounces, each ounce into 8 gros and each gros in turn into 72 grains.

After its adoption in France, the metric system spread rapidly into the neighbouring countries. In fact Germany adopted it in 1872, although its relations with France at that time were none too happy.

Although the U.K. and the U.S.A. did not adopt the metric system solely in their trade, they recognized its use by law in 1864 and 1866 respectively. In fact, the yard in the U.S.A. is defined in terms of the metre and the pound in terms of kilogram.

In 1951, the Hodgson Committee which had been set up by the U.K. Board of Trade to investigate the situation regarding weights and measures in the U.K., recommended that in concert with the Commonwealth countries and the U.S.A., U.K. should adopt the metric system within a 20 year period. This recommendation was not accepted by the U.K. Government on the ground that the cost of change-over would be prohibitive.

The British Association for the Advancement of Science has recently set up a Committee under the Chairmanship of Sir Hugh Beaver to report on the practicability, implications, consequences, both international and domestic and the cost of change-over to the metric system or the decimalization of weights, measures and coinage by the U.K.

INDIA

In a sample survey carried out in 1951 by the National Sample Survey, in about 1,000 villages it was found that there were as many as 143 different systems of measurements or weights in various parts of rural India. An analysis of only a part of the material showed that the number of systems for measurement of volume was 150 and for land area 180.

(Continued on page 6)

CONVERSION TABLES

Chhataks	Grams (to nearest gram)	Chhataks	Grams (to nearest gram)
1	58	9	525
2	117	10	583
3	175	11	642
4	233	12	700
5	292	13	758
6	350	14	816
7	408	15	875
8	467		

Seers	Kilograms	Grams (to nearest 10 grams)
1	..	930
2	1	870
3	2	800
4	3	730
5	4	670
6	5	600
7	6	530
8	7	460
9	8	400
10	9	330
11	10	260
12	11	200
13	12	130
14	13	60
15	14	..
16	14	930
17	15	860
18	16	800
19	17	730
20	18	660
21	19	600
22	20	530
23	21	460
24	22	390
25	23	330
26	24	260
27	25	190
28	26	130
29	27	60
30	27	990
31	28	930
32	29	860
33	30	790
34	31	730
35	32	660
36	33	590
37	34	520
38	35	460
39	36	390

Maunds	Kilograms (to nearest kilogram)	Maunds	Kilograms (to nearest kilogram)
1	37	11	411
2	75	12	448
3	112	13	485
4	149	14	523
5	187	15	560
6	224	16	597
7	261	17	635
8	299	18	672
9	336	19	709
10	373	20	746

1 Maund = 40 Seers
1 Seer = 80 Tolas

AFTER OCTOBER 1

(*Continued from page 5*)

In all more than 100 types of maunds were in force with weights in standard tolas ranging from as low as 280 to as high as 8,320 compared with the standard maund of 3,200 tolas.

The weight of seer was found to vary from 8 tolas to 160 tolas, compared with the standard seer of 80 tolas.

The metre as originally defined was taken as the 10 millionth part of the quadrant of the earth's meridian. The kilogram was defined as the weight of pure water contained in a cube of 0.1 metre each side. The volume of this water was taken as one litre to define the capacity measure.

THE KEY MAN

Raghubansh Narain Singh

Asstt. Development Officer (Social Education) Suar N.E.S. Block

It is often said in Block headquarters that half the battle is won if the Village Leader is on the side of the Gram Sevak. The truth of the saying was evident in Rahmatganj a small village in Suar N.E.S. Block. The village formerly formed part of the then Rampur State in U.P. The people were poor and were in constant fear of the Thekadars who exploited them. The Block started in 1956, but previous to that Rahmatganj had a taste of local self-governing institutions like a village panchayat. In 1951 when the Panchayat-raj act was put into operation, Rahmatganj elected one Jai Dev Singh as the village Pradhan. His honesty and above all his desire to do good to the village won for him the confidence of the villagers. So when the Gram Sabha was formed he was the unanimous choice for its Presidentship.

Jai Dev Singh immediately felt the necessity of educating the village children, and so with the active help of the villagers started a primary basic school. This happened before the Suar N.E.S. Block was started.

After the Block was started, the pace of progress in Rahmatganj became a quicker one. The V.L.W. in charge of the village had not to seek the leader. He was there. So no sooner they met each other, a bond of friendship was established. Rahmatganj had a lot of vacant space lying unused. The first job planned was to utilize them. An appropriate time was awaited, and in the month of July that year the Vana Mahotsava programme was launched. Forty-five acres of the vacant space was planted with fruit bearing trees like Banana, Papaiya, oranges etc. and each villager was induced to start a kitchen garden.

The Gram Sevak found in Jai Dev Singh a true friend and made Rahmatganj his headquarters. Development activities followed one after another in quick succession. A Yuvak Mandal Dal with 30 members was formed, which subsequently became the main associate of the Gram Sevak in executing various projects. The result was quicker still. In the last sanitation competition Rahmatganj was judged to be the best in the district.

During the brief period of two years the village has been able to establish a girls school, where training in crafts is being imparted to women, an adult literacy centre by the Yuvak Mandal Dal, a Co-operative Society, a Community recreation centre, and a park. Every house in the village has got a smokeless chulha and soak-pits. Every farmer has got two model compost pits, and all farmers now practise improved agricultural methods.

The Block is now so sanguine of Jai Dev Singh's help that it tries to implement any new idea first in Rahmatganj. Rahmatganj has become, so to say, a laboratory for the Suar N.E.S. Block. If the experiment succeeds in Rahmatganj, the Block is sure that it would succeed in the rest of the area. Behind all these achievements and successes lies the unstinted help and co-operation of the Key man—Jai Dev Singh.

KHADI IN MADRAS

Under the Khadi Schemes of Madras Government over 1,00,000 spinners nearly 3,000 weavers and 1,000 other artisans receive unemployment relief. In 1957-58 along over Rs 20,00,000 for spinners; Rs 11,00,000 for weavers; and Rs 4,00,000 for bleachers, dyers and printers have been distributed as wages. In 1957-58 Khadi Production was 24,86,948 yards valued at Rs 54,63,531. Khadi sold was 24,15,749 yards valued at Rs 60,06,826. Khadi is the speediest and simplest form of relief for villagers.

VITAL LINK

R. Balachandra Panicker

Gram Sevak, Mavelikara

THE smiling face of a boy is a delight to the onlooker. It shows its smartness and genuine abilities inherent in him. He needs only proper guidance and systematic training. I was really fortunate in getting such a selected band of smart young boys in their teens, as Young Farmers, in the club organised in my area, three years back. At the time of interview for selection, their aptitudes for subjects such as Farming, Poultry rearing and Bee-keeping etc. were judged. They were entrusted with items of their choice. Assistance by way of free issue of implements and technical advice, in addition to brotherly love and care were given to them. Many of the boys later revealed the truth that their main attractions at the outset were to get these equipments "Free". But when the organisation was fully equipped and officially inaugurated, the boys realised their responsibility and responded adequately. I used to attend all their meetings and give lectures and practical demonstrations on various subjects of technical importance. They became a model to the other students of the local high School and were distinguished from the rest by a special uniform.

Shri K. P. Sukumara Pillai, the secretary of the Club was the gem of a boy. He had the sincerity of purpose, team spirit, patience and perseverance, all the qualities that goes to make a leader. He understood the dignity of labour. He knew how to talk and talk well to the members of the Club. His enthusiasm attracted the notice of many important persons of the Block as well as of the public of Malabar area. His kitchen garden and compost pit were models to other members of the Club. Even old farmers of the locality paid visits to his Kitchen garden to gather new ideas. This served as an inspiration to the Club members for greater activity.

In order to develop the sense of dignity of labour, co-operative spirit and enthusiasm among the members inter-house and inter-panchayat visits were introduced giving them a chance to help the backward members in the field work. Social activities such as construction of latrine and compost pits were also conducted in the poor men's circle. The talent of art and craft was also developed in them. Sukumara Pillai added credit to the Club by securing the Block Level 1st Prize in Essay and Elocution competition conducted a year ago. The boys are ever eager to do more work.

Their sphere of activities widened as days passed by. Recently they joined in opening a "Model Collective Paddy farm" in co-ordination with the newly formed Karshaka Samajam of the old farmers. As a recognition to their valuable work, they were recently invited by the A.I.R., Trivandrum, to partake in a Programme on the activities of their own Community Development Block, Mavelikara.

Three years back they joined the Young Farmer's Club more out of curiosity. To-day they are no more a band of inquisitive youngmen, but a vital link between the people and the Block.

It takes two to speak the truth, —one to speak, and another to hear.

—Henry David Thoreau.

Reminiscences

Kottayi Jakob
Gram Sevak, Kerala

THE mellow light of an Onam Moon had cast a spell. There was freshness in the air. An atmosphere of gaiety pervaded all around. Midnight was fast approaching. I was returning from the house of my friend. That year, my friend had adopted modern methods in his fields and the yield was a bumper one. We were celebrating the occasion. To see one's efforts fruitful and help appreciated is a rare experience in life. Happiness often makes me thoughtful and reminiscent. So I was in a reminiscent mood. The speed of my cycle gradually slowed down as the mood took possession of me.

From the realm of reality, I looked around. The stately Palmyras looking down upon the luxurious Neems, the Western Ghats in silhouette—this is not where I was born and spent a score of my years. I remembered the graceful cocoanut palms of those sun bathed beaches, the calm and serene backwaters lulled to sleep by the lazy breezes—such a place was my birthplace. It was beautiful. It was enchanting. But it was now far off—hazy as in a dream.

Slowly I turned over the pages of my life in this place. The first seven days of my stay here as a Village Guide was excruciating. In spite of the wonderful things I had learnt as an apprentice Village Guide, I was afraid to face the people. I was simply scared. After full seven days, I gathered courage to step into the wide 'hostile' world of the farmers and the artisans. During the first few days, faced with the inevitability of facing the people I used to introduce myself as the Village Guide to anyone whom I took for a farmer and give him the message of the Community Project in one breath in the form of a readymade speech. Many must have taken me for the preacher of a new faith—for they looked unmoved and bored while others simply smiled. One rich ryot took me for a Communist—may be because I repeated "Community Project" over and over again and told me bluntly, "I have nothing to do with the Communists."

I clearly remember the first drinking water well I was able to construct. The well though a necessity, the Village Development Committee was afraid of taking up the work, as they thought that the actual cost of construction would exceed their expectations. I began to visit the V.D.C. members every alternate day and pleaded with them to take up the work. The President at last took pity on me and told his colleagues "See how much this poor fellow is suffering to start a well for us. Come on, let us start it. I will make good any unforseen loss." So the work was started.

Emboldened by my first success, I began to wander about the length and breadth of my area spreading the message of the new faith. Those were the days of evangelism and there was in those sojourns, a touch of novelty—a spirit of adventure. As I gathered more experience, one fact became clear to me—that I had to learn more from the people than all the theoretical gems of wisdom, packed into my head by the Training Centre and all the books I had read. So, I thought it better to listen than to preach. Slowly the practical wisdom of millenniums learned through the hard school of experience began to become mine. Often the seers from whom I learnt were ill-clad, had very little of education and their words were raw and abrupt. But they were true. For they had stood the test of time and had gone through the purifying fire of Natural Selection and survival of the fittest.

I still remember how I earned a friend true and good by admitting my ignorance frankly. A progressive farmer asked me the departmental name of a local paddy seed. But I did not know, could not even guess. I admitted my ignorance and requested time to consult the Agricultural Demonstrator. The reaction of the ryot bewildered me. Patting my back, he exclaimed "For the first time in my life I am meeting an Agricultural man who is frank enough to admit his ignorance. I can depend upon you. You are

my friend". And he was true to his word and has stood by me in many a day of difficulty.

So, with a basal dressing of the points learned at the Training Centre and a top dressing of facts learned from the ryots, as I came closer and closer to traditional forms of agriculture, the social structure and the cultural and moral values guiding the way of life of the ryot, I began to realise that my new faith was but a newer edition of the old, fitted to the changing conditions. The proverbially conservative ryot of the Indian Economics or the obstinately old fashioned agriculturists of the classical economists—I could find nowhere—any way, not in my area.

Life became sunnier and pleasanter. No more did I feel like a book-wise upstart come to preach theoretical ideas to experienced farmers. Well equipped with the wisdom of the past and enlightened with the ways of modern science, I began to approach the ryots. They understood me and I, them. The very people who were far off and suspicious, now began to listen to me. Once harmony was established, every difficulty was removed. By introducing improvements in small doses by a method of grading up, greater and greater achievements began to become ours.

By this time, I had become a new man. By thinking and speaking and doing things for the ryots, I was transformed into one. Often, I could not understand myself—my changed outlook. For often, when the wonderful panaceas for the social and economic ills came from the high up, I used to view them as a ryot, seeing his difficulties, his advantages and evaluating things from his point of view. And if by some chance I expressed myself, it was not rarely that I was accused of lack of enthusiasm and faith in the cause. But on such occassions of difficulty, the love and affection of my faithful ryots stood me in good stead.

Five years had gone by. By now, I am more native than many a native born and bred here. The land of the sun bathed beaches and sleeping backwaters—rarely come up in my mind and are still rarely visited. Now from these moon bathed slopes, I view the smiling hills and nodding forests, I have not many regrets. When I experience the unsophisticated love and gratitude of my people I feel that I belong to this part of the country. Something in me whispers to me "You have not wasted your five years after all."

From far off, I could see the tender blossoms of my white Antigon murmuring to the moon. Even as I stretched myself in my bamboo couch, the Jasmines of my tiny garden sent me their messages of love.

Pan Ka Kattha

THE Forest Research Institute at Dehra Dun offers good news to the lovers of *Pan* and millions of other users of *Kattha* in the country. Extensive laboratory and pilot scale trials carried out at the Institute have led to the development of a process for the extraction of an improved and purer quality of *kattha*. The new method is quick, efficient and economical as compared to the methods already in use, which are time-consuming, wasteful and yield products containing high percentage of impurities like sand and mineral water. Moreover, unlike the conventional method the improved process can be carried out throughout the year.

There is a large demand for *kattha* in the country for use in *Pan* preparations and in medicines. Cutch or Kark Catechu, which is obtained as a byeproduct of *kattha* industry, finds many uses in different industries. It is also widely used for dyeing and preserving fishing nets, sailing ropes and mail bags. The process developed at the Forest Research Institute uses as raw material hard wood of the *khair* tree, which is widely distributed all over India, particularly in the deciduous and dry regions like Andhra, Bombay, Madhya Pradesh and Uttar Pradesh. A pilot plant for the extraction of *kattha* under the new process was recently installed at the Forest Research Institute at a cost of more than Rs. 3,000. This serves as a model for some of the larger *kattha* producing units which are being set up in different parts of the country.

Man With A Mission

BUT FOR enthusiastic Bajirao Vaidya, the amazing feat of constructing an 11-furlong road in less than a week by the villagers of Daodipar would have been a myth. The tiny village Deodipar (population 600) in the Bandara N.E.S. Block is 11 furlongs away from the Calcutta-Bombay National highway.

The main problem of the village was lack of suitable means of communications. During rainy season the monsoon-fed stream that flows between the village and the National highway cut off the village completely from outside world. The cart track got muddy and not even a cycle could pass.

In October 1956, when the Bandara N.E.S. Block was inaugurated the Block-staff started discussing with villagers plans of aided self-help programme for development. Daodipar villagers gave priority to the construction of the road. Work was started and it got going. When earth work on nearly 3 furlongs of the existing track was to be completed there arose a problem.

The owners of plots of land where the further stretch of road was to be built refused to part with any portion of it, because they were deeply attached to it. The work came to a stop. The sponsors were disheartened. The Block staff argued with the people to part with a portion of their land. The picture of a better standard of living through the road when constructed, as painted by the Block staff, did not enthuse the villagers.

The case appeared to be a lost one. Then suddenly Bajirao Vaidya, a villager of moderate means, appeared on the scene. Construction of the road, he said, was the mission of his life. He made it known that he was determined to fulfil this dream, no matter what hardships he would have to face or what obstacles he would have to surmount. He took out his paltry savings and offered the unwilling land-owners as a price for the land for the road. The people of the village felt moved. Good sense dawned on them. They realised that they, too, had a duty to perform. A few came forward with offers of land. Others followed suit. Soon the required land for the road was donated. The Block staff, too, was happy. They sanctioned the contribution out of the Block budget for the road.

But the Block contribution was not enough. The people had to contribute a larger share and they were steeped in poverty. They became apathetic.

Vaidya again came to the fore. He remained the people of his determination and of what he had called the mission of his life. He said that the road shall be completed. He would take the help of friends, he said, and donate his all. "I would just consider that, instead of making money on the petty contract work which I do. I have lost all that I had earned. That is all there is to do."

Vaidya's determination aroused the people. Eighty of them came forward to offer *shramdan*. They also offered the help of their 40 bullock-carts and worked for four days and two nights turned into "day" by the petromax lanterns. It was a sight to see.

The *shramdan* resulted in extending the road by another 5 furlongs and covering the entire length with earth-work and murum.

Success in one field acts as a spur in regard to activities in others. Bajirao and his friends also devoted attention to the needs of village children. They are now busy putting up a Bal Udayan or a children's park, towards which Vaidya has contributed Rs. 200. He has also undertaken the responsibility of laying a pipe-line from his well in order to supply clean drinking water to the villagers. The Block staff has come forward to help.

Much more important than the construction of the road or the children's park, or even the laying of a pipe-line, is the inspiration which Bajirao has given to the people of his village. He has aroused them to contribute their mite to the overall betterment of the village, so that it becomes a better place to live in.

Ramu's Dilemma

B. S. Someswaraiah

Gram Sevak, N.E.S. Block, Pavagada, Mysore.

RAMU was born and brought up in a village, but educated in a town. Village upliftment work fascinated him from his boyhood. He always cherished the hope of serving the village folk. While he was a student in the college he read about the Community Development Programme and the nature of work of different Block personnel. The job of the Gram Sevak interested him most and he decided that after his college studies he would be a Gram Sevak. As soon as the college course was over, he returned to his native village, and told others about his future plan. Those educated among the villagers began to laugh at him and advised him to go to the town in search of some good job. But Ramu was unmoved. He soon applied for a Gram Sevak's job and in due course got an appointment and was asked to report at the Training Centre.

After he completed his training, he was posted to a Block. Fulfilment of his life's ambition seemed near at hand. The officer to whom he reported first gave him a cold reception. He felt embarrassed. He went out for the first time to his circle headquarters and introduced himself to the village school teacher. The reception this time was also far from cordial. To all his enquiries the replies were in monosyllables. Then there were the village officers, who knew about Ramu's posting beforehand. They received him casually. Ramu talked to them enthusiastically about his hopes and aspirations as a Gram Sevak. They heard him quietly and said, "If people co-operate with you, you can do all you visualize. There are many hurdles in the way. We are meant only for Government's work and not for village upliftment." He was taken aback by their apathy ! Despite his best efforts, he could not find a single room in the village where he could stay

After six months the school was closed for the Summer Vacation. Ramu took permission from the Inspector of Schools to stay in the school building. His sympathetic treatment of the villagers won for him their confidence. Their needs were many and Ramu felt like removing them, but his hands in most of the cases were tied. Since the duties and responsibilities of the Gram Sevak are not clearly defined, he could not take up many works which he could have otherwise accomplished had he been given a free hand. Besides, the relation between the Gram Sevak and the Extension Officers at the moment was not congenial for the healthy progress of the work. The training he had in Veterinary science turned out to be inadequate in the actual field. A timely help in treating the disease of the cattle, he experienced, was one of the surest way of winning over the villagers, particularly, the farmers. Specialized training in Veterinary science he found to be an urgent necessity. Lack of storage facilities for seeds, fertilizers, and tools etc. which were in his change was another headache, and above all his beat of 10 villages was too much for him to manage. Ramu did not find any way out. When he looked around he found most of his co-workers dissatisfied and depressed. The duties entrusted to them were too heavy for them to shoulder. They are apprehensive of the security of service, uncertain of promotions to higher ranks and dissatisfied about lack of minimum amenities like free quarters, free medical aid etc. Ramu noticed a sense of frustration amongst his colleagues, which was infectious. It had affected him, no doubt, but not to the extent as to curb his enthusiasm. He feels that the time will change and he could fulfil his ambition. But when and how—that he cannot make out. He is now in a dilemma.

THREE PROBLEMS

D. Joseph
Gram Sevak, Alengad Block, Kerala

WITHIN a month's time the Community Development Programme will be completing the sixth year of its operation. During this period quite a number of items like village roads, schcols, panchayat ghars, drinking water wells, improved methods of agriculture etc. have been undertaken and completed. We can say with confidence that we have done something, atleast we have attempted to bring about a physcial change in our villages. But can we say that we have felt the pulse of the people, can we say that we have correctly diagnosed the diseases which are eating into the vitals of the village community? The answer certainly is 'no'. My four years' experience in the C.D. Programme in Kerala State tells me that the main problems remain still untackled.

What are those problems? To me the problems of rural Kerala are mainly three i.e. unemployment, social disabilities and lack of medical amenities. And how to tackle them? Unemployment is a very big problem. It is worrying the country at large. But I feel that the C.D. Programme can play its part to help solve the problem. The question is how? The population in Kerala is increasing very rapidly, whereas the area of land available for cultivation remains the same. Naturally, therefore, there is a scramble for land. The existing plots get divided and subdivided till agriculture becomes an unprofitable profession. In a large number of Kerala villages the position has come to that stage. When additional land cannot be provided to the villagers it is better to provide them with an alternative vocation, whereby they can stay in the village and earn something to supplement their net income. The only alternative in this case is the introduction of cottage industries. Therefore, so far as the land-hungry villages are concerned, the programme should lay greater stress on cottage industry than on agriculture, and provision accordingly be made in the N.E.S. Blocks.

Next comes the question of medical help. Recently I had witnessed a pathetic sight in one of the villages in my area. Sometime back I along with the Lady Social Education Organizer happened to visit the village inhabited mostly by poor people. We went to a hut, and met 5 children with very little difference in age. All of them were below 10. Their looks were pitiable. On enquiry we came to know that two of them were suffering from Jaundice. Their sick father, unable to feed the family, had left the home for ever in desperation. The poor mother had gone out in search of some job whereby she could earn something and feed the hungry and sick children. While we were talking to the children, the mother returned empty-handed. Hunger, poverty and worry had reduced her to a skeleton. Our kind enquiries made her burst into tears. We immediately arranged supply of milk powder for the children from the Mahila Mandal and advised her to remove the jaudice-affected children to the hospital. She expressed her gratefulness but was hesitant to have her two children admitted into the hospital. She was afraid that her children won't be cared for and looked after properly there. As an explanation she said that poor were not properly looked after in the hospitals. This was a notion which had gone deep into the minds of the poorer class. How to remove it was the question. The only course is to provide each village or a number of adjacent villages with a small unit for medical aid. The Programme is yet to give the much needed hope and confidence to the poorer sections of the village.

Here in Kerala, like any other State, exists quite a large number of religious endowments. They are rich in men and money, have large tracts of irrigable lands at their disposal. But they sit back and pay little attention to the prevailing distressing conditions. The Programme can do miracles if these endowments join hands in our fight against poverty and disease. But how to change their attitude? Who is to change them? Here is a potential source lying untapped.

Seeing is Believing

Onkar Lal, M.P.

"SEEING is believing"—runs the adage. The silent revolution is social and economic spheres, that is overtaking rural India became apparent to me, only after I saw Lakhawa, that small hamlet 8 miles from Kotah city. It is a village of 20 families. Till the other day the villagers were struggling hard to eke out a living; they were fighting to ward off poverty. Today, the situation is different. The villagers have developed confidence in themselves; they have become self-reliant, and have mustered courage to better their lot.

But how was this change possible? I was taken to a tank on the outskirts of the village, by the side of a pucca road at a distance of 1½ miles from Jhalavar Wali. It was a large tank 200 ft.×3000 ft., full of water. The land round about the tank was all green. The luxuriant growth of crops that stood in the fields presented a idyllic picture. I was anxious to know the story behind it.

The village once formed part of one Shri Chandra Kants Raiji's jagir, and the tank was his personal holding. After Independence, the tank was donated to the Rajasthan Government. Its potentiality for minor irrigation was realised, but not tapped till the inauguration of the C.D. Block of which Lakhawa formed a part. After the inauguration of the Block, the villagers were made to understand the importance of the tank, and with their help it was renovated. Today it is a perennial source of water irrigating 500 acres round about.

The tank paved the way and many things followed in its wake. Every family was given 15 bighas of land to cultivate. They used better seeds, better farming methods and above all formed a co-operative of their own. Today they are prepared to face the uncertain future with hope and confidence. Their outlook on community life is a changed one. The new road which runs across Lakhawa proves amply that the importance of voluntary labour has been well realized by these simple villagers. This road, without any governmental help whatsoever, is all their own making. In the course of a single year they have contributed a sum of Rs. 10,000 in the shape of voluntary labour to see the project through. It is an achievement of which any village in the country can rightly feel proud of.

Lakhawa tank symbolises a new life—a new spirit. It is not like gigantic Bhakra Dam nor does it enjoy the fanfare that goes with all the big multi-purpose projects. It is as unostentatious as our villagers, trying in their small ways to change the face of the country.

My visit to Lakhawa is an experience worth recounting. Given similar opportunities I feel every village in India can emulate Lakhawa in some way or the other.

DEGREE IN AGRICULTURE

Sir,

I have gone through your Journal issued in the month of December, 1957. In this issue you have given certain extracts from the report of Committee on Plan Projects relating to the Gram Sevaks, their training, and their role in the programme. I was deeply interested to read the suggestion that the qualified Gram Sevak, after a prescribed number of years in the field, should be eligible to join the degree course in Agriculture without starting at the bottom. Personally I welcome this suggestion because this will benefit a good number of energetic young workers in the field of Agriculture. There are trained and experienced V.L.W.s who can serve efficiently as Agriculture Extension Officers. But as they have no degree in Agriculture, the Government does not offer them the job. If such V.L.Ws and other field personnel get this chance, it will be highly appreciated.

So I shall request the Government to take up this scheme of Degree Course as early as possible.

Yours etc.
Suresh Chandra Dev Nath,
Compost Inspector, Jirania,
C.D. Block (Post Intensive Stage).

GUR

GUR IS an important article of food in India. In Uttar Pradesh and the Punjab, it is customary to take a cube of Gur after every meal. It helps the process of digestion. Long before Gandhiji had dubbed white sugar as "white poison" and recommended the use of Gur in place of sugar, the people in the north usually included Gur and Khandsari as essential articles of their diet. Raab was preferred to Gur in the early twenties of this century. Attention of the people has reverted to Gur and its variants due to the efforts of the Khadi and Village Industries Commission.

The chief drawback in the rehabilitation of Gur industry is the revolting appearance of average market Gur. When an educated man looks at the Bhelis of Gur studded with swarms of flies at a grocer's shop and beneath the flies a blackish, trickling or amorphous mass of some unwholesome substance, all his patriotism along with his enthusiasm for rural products evaporates. The indigenous methods of production of Gur are mostly responsible for such a state of affairs. However, with the introduction of improved techniques of Gur and Khandsari manufacture by the Units of the Commission working all over the country, the quality of Gur and Khandsari has begun to improve very considerably. High grade Gur has now become available in the market and every discriminating person will be pleased to find it up to his taste.

The high gradation of Gur generally depends on its physical and chemical factors i.e., its colour, taste, composition, hardness and flavour, as well as to the presence of the requisite quantities of sucrose and reducing sugars and the absence of ash, dirt and moisture contents. A good variety of Gur must have :

(a) A Light Colour : It attracts a customer. It is refined. But generally cane growers who prepare Gur on their farms care very little for the colour of their product. A little attention to the complete removal of extraneous and non-sugar matter from the cane juice by the use of clarificants combined with a thorough check on the *bhatti* to prevent caramalisation, would do the trick and Gur of highly pleasing, light brown colour will be the result. Lime which is generally used for the clarification of the juice should be mixed with great care and discrimination, as a little excess of the same would make the resultant Gur and Raab dark.

(b) A Crystaline Texture : The texture of Gur depends mostly on its crystal contents and the size of the crystals. Crystals are an index of the purity of Gur and show how much amount of sucrose a given sample contains. One can know the texture of Gur by rubbing a sample between two fingers. If it feels gritty and has grains, it is good, but if it is just powdery and amorphous it is low grade fit only for making sweets with.

(c) A good taste: Generally the market Gur has a saltish taste. This defect is due to the deficiency of levulose, the sweetest content of Gur. The other sweet contents are sucrose, glucose and other sugars. Levulose, sucrose and glucose must be present in proper proportion to make Gur tasty and edible. An admixture of extraneous matter and mineral salts adversely affects the taste of Gur. Sweetness of Gur, therefore, must be vouchsafed by proper clarification of the juice and selection of the variety of cane for juice extraction. Cane grown on salty and alkaline lands or lands manured heavily is likely to draw a high percentage of mineral salts from the soil and Gur produced from the species would naturally be saline.

Another factor that make Gur taste bitter comes in from excessive heating of the juice which caramalises it. Sometimes this bitterness is a result of faulty methods of storage likely to help decomposition and deterioration of the commodity.

(d) A Local Favourite : Flavour is a taste peculiar to different localities. Cane Gur has a flavour of its own, but with the admixture of lime juice, ginger and other ingredients a variety is created to suit local preferences. Rahon

(Continued on page 16)

I Tell my own story-Tomato

P. Balasubrahmanyam
B.D.O., Kurnool.

VEGETABLE growing has been recognised to be among the most remunerative of rural avocations. Dieticians recommended ten ounces of vegetables in our daily diet. They are protective foods being rich in vitamins and minerals.

In the community of vegetables, I happen to be one of the best known. My fruits are appetising and consumed raw and cooked. I am very popular in cannaries and form a rich source of vitamins A, C and B. I am highly productive and can be grown throughout the year.

I belong to tropical America. In Europe during the last century I was called by several as "LOVE APPLE". I am a warm-season-crop requiring plenty of sunshine for my proper development. High humidity and high temperature favours the development of foliage diseases, while hot dry winds often result in the dropping of the blossoms.

I am very cosmopolitan in my soil requirements though I prefer a well-drained heavy soil. The soil should be well pulverised to make a mellow bed by giving three or four ploughings. Four to eight ounces is the seed rate per acre and my seedlings are best transplanted after four or five weeks. Spacing is 3 ft.×3 ft. or 2½ ft.×2½ ft. depending upon the richness of the soil.

I respond well to manuring. Besides, a basal dressing of five to ten tons of farm yard manure, 200 lb. of superphosphate is profitably applied at the time of final preparation of the land. Three hundred pounds of sulphate of ammonia is best applied as top dressing in three doses, the first dose being a month after transplanting. Pruning and trainnig are important operations which are scarcely attended to by growers. An ideal plant should have only one or two main stems standing erect with a few well distributed laterals all-round. I come to yield in about three months. Eight to ten thousand pounds per acre is a common yield.

Numerous varieties exist in me. Bonny Best is an early variety with medium sized solid, smooth, meaty fruit. Marglobe is a vigorous plant giving heavy yields of large, globe shaped fruits resistant to wilt. Pondeross is perhaps the most popular variety. It has good flavour, size, soild meaty flesh and few seeds. The fruits are of a rich purplish pink colour weighing about a pound. Ox-hear is the heaviest giving fruit with rich and luscious subacid flavour. Pritchard is an ideal all purpose red type of high quality and is wilt resistant. Cherry Red is a type giving highly clustered fruits of small size and very attractive in colour. Recently the I.A.R.I has evolved a variety called "PUSA RED PLUM" with a high vitamin and sugar content having a delicious taste.

Permit me to stop here. Kindly refer to the nearest Gram Sevak or Agricultural Departmental Official for any doubts regarding my culture. Forget me not in your kitchen gardens.

GUR

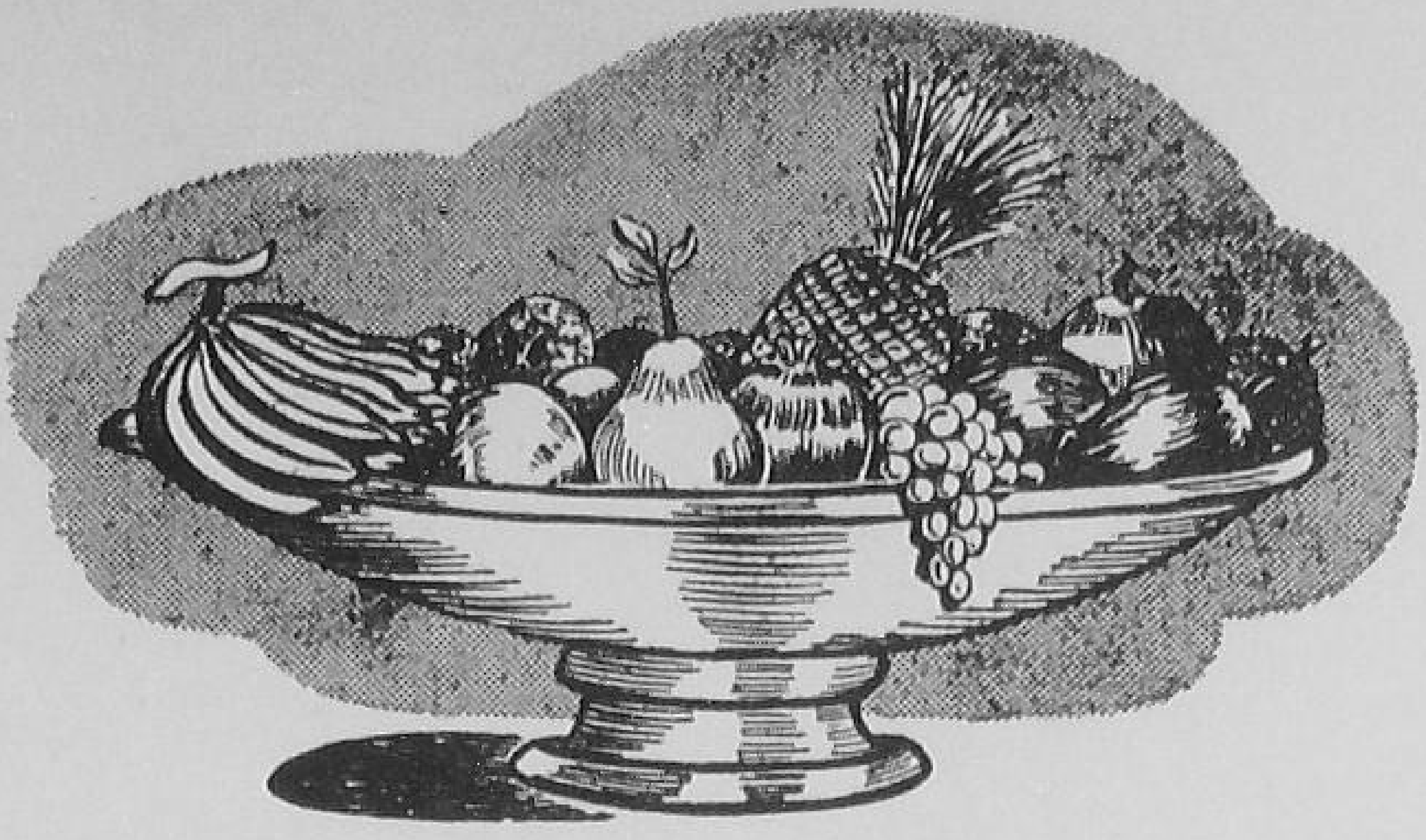
(*Continued from page 15*)

Gur, Jagadhri Gur, Nauchandi Gur and some of the well-known varieties based on locally acquired flavours.

(e) **Sufficient Hardness:** Soft and flabby or trickling Gur is revolting to refined tastes. The softness is due to an absorption of moisture. It must be remembered that Gur is highly hydroscopic and catches atmospheric humidity with a vengeance. Consequently its storage is airtight containers or moisture proof wraps is of primary importance.

The moisture content is generally visible to the naked eye and could be felt by the touch of hand. It can be measured by elaborate analysis. Hardness of Gur is a preferable quality. Good edible Gur could, therefore, easily be selected from the market keeping in view the above qualities.

Traders and manufacturers of Gur would profit much if they follow the advice of the Gur Khandsari workers of the Khadi and Village Industries Commission, working in their area, in the matter of improved production of the commodity.



Prepare Your own Syrups, Pickles and Juices

We are glad to publish under this feature details of recipes for the preparation and preservation of popular Indian vegetables. These were originally issued by the Central Food Technological Research Institute, Mysore and the Director of this Institute will be glad to provide any further information which may be desired by our readers.

GUAVA JELLY

Selection of material—Select sound, firm and rather tart fruits free from blemishes. Soft fruit does not possess the setting property and hence should be avoided as far as possible.

Preliminary treatment—Wash the fruit thoroughly under running cold water, scrubbing with hands where necessary.

Preparation of fruit—Cut the washed fruit with stainless steel knives (the ordinary knives stain the fruit black and thus make the product unattractive) into small pieces and cover it with water adding citric acid at the rate of 10-15 grains per pound of the fruit.

Extraction of pectin—The method is based on the work done in the Fruit Products Laboratories at Lyallpur, under the auspices of the Indian Council of Agriculture Research. Boil the mass for about half an hour with occasional crushing with a wooden ladle till the extract shows good stickiness. Put the mass in a coarse cloth and separate the extract. Add to the pomace one fourth its weight of water and take another extraction. Get a similar extraction once again. Stain the extracts and then keep the mixed extracts overnight for settling in a deep container.

Testing of pectin—Decant the clear extract carefully. To a teaspoonful of this clear extract add two teaspoonfuls of methylated spirit. The formation of one big clot indicates that the extract is rich in Pectin, whereas slightly smaller clots indicate that the pectin content of the extract is medium and the formation of a thin gelatinous mass with very small clots shows that the extract is poor in pectin.

Addition of sugar—To every cup of the clear extract add ¾ to ½ cup of sugar respectively according as the extract contains rich or medium pectin. In case the extract is poor in pectin, concentrate the same till it gives a good pectin test and then add the requisite quantity of sugar.

Cooking—Cook the mixture till the mass boils at 222°F at sea-level or till it gives a sheeting test i.e., if it is held in the spoon it starts dropping in the form of flakes and not in drops.

Note—For every 500 ft. rise in altitude the boiling of water falls by 1°F and a corresponding decrease may be effected in cooking temperature.

Packing and storage—Pour the finished product into clean dried sterilized glass jars keeping a wooden board below. (This prevents breaking of glass containers when hot product is poured into them). Let the product cool and then, seal air-tight.

THE GANDHIAN TRADITION

THE Khadi Gramodyog Maha Vidyalaya of Hyderabad, the capital of Andhra Pradesh, is one of the six Maha Vidyalayas in India intended to train the Block Level Extension Officers (Industries) of the Community Project Administration, now engaged in the "Silent revolution" of changing the rural face of the Nation. The Maha Vidyalaya imparts training in various crafts and small-scale and village industries suitable for the villages. The Maha Vidyalaya was started in August 1957.

In view of the importance of the village industries in the Community Development programme, the All India Khadi and Village Industries Commission has planned to train the Extension Officers of the CPA in their own institutions with a view to secure for the officers right perspective and correct ideology which may stand them in good stead in their future assignments. It was against this background that the Maha Vidyalaya of Hyderabad, like her sister institutions elsewhere, was brought into being.

Two-fold Objectives:

The training imparted in the Maha Vidyalaya has two-fold objectives. The daily routine to be gone through by the trainees consists of early rising, morning prayers and community work involving sanitary and gardening, so that the trainees may acquire community discipline and appreciate the dignity of labour.

The second and more important phase of training covers theoretical and practical training in several village industries, besides class room lectures on general subjects viz., (a) village conditions and its problems with special reference to their effect on village industries; (b) programme of constructive work and its impact on village condition; (c) Economics of village industries; (d) Marketing and Co-operation; (e) Community Development programme extension methods; and (f) Khadi and Village Industries Commission and its manifold activities.

The State Khadi and Village Industries Board, Hyderabad has allotted three model industries units, viz., Cottage match, soap from non-edible oils and oil Ghani to the Maha Vidyalaya and with the help of the grant of Rs. 51,000 initially sanctioned by the Commission, five more village industries have been established. These eight village industries started in the premises of the Maha Vidyalaya meet the needs of practical training to the officers-trainees. They are :

(a) Khadi-spinning (Tradition & Ambar Charkha);
(b) Khadi weaving;
(c) Oil Ghani;
(d) Soap from non-edible oils;
(e) Cottage matches;
(f) Village pottery;
(g) Hand pounding of rice; and
(h) Hand-made paper.

In the programme of training given in the Maha Vidyalaya, special emphasis is sought to be laid on the development of community life of the trainees and re-orientation of their lives on Sarvodaya principles, a subject so near to the heart of the Father of the Nation. With this basic objectives in view, requisite conditions are created in the Maha Vidyalaya and the trainees are made to feel an atmosphere of brotherhood.

Their daily routine begins before dawn with morning mass prayers, mass spinning, sweeping and cleaning, scaverging and gardening. The rest of their time is devoted to the practical training in the several industrial units, class room lectures, recreation and games. Their busy day ends with night prayers. Therefore, the over-all training is so calculated as to reshape their lives on the Gandhian tradition, with a view to making them eminently qualified to serve and lead the rural India, that is in the vanguard of progress today.

HANDICRAFTS OF ANDHRA

ANDHRA Pradesh is a treasure house of versatile craftsmanship. In handicrafts and in textiles, few States excell in variety and design. These include silverware, toys, bidriware, grass mats, himroo and cotton fabrics.

Toys are the first playmates of the children and in Andhra, Kondapalli, Nikkapalli, Etikoppaka and Tirupathi are the centres for the making of traditional wooden toys showing familiar aspects of village life, birds, animals, vegetables, etc. The Kondapalli toys are not only popular with the local people, but also with outsiders as they are small and depicting many sights of rural life. They include a thatched hut with its inmate at work, women drawing water from the well, grinding corn, milking the cow, shephard tending his sheep, elephant in its ceremonial howda, etc.

Nirmal Wares

More artistic and realistic are those with the normal finish. The birds in this are often said to be so real that if kept with those living, they can hardly be distinguished as toys. They are made of special wood called *punki* available in the locality. This wood has the peculiarity of taking in colour which bears close resemblance to that in nature. The popularity of this has encouraged the craftsmen to form a Co-operative through the Department of Industries.

Lacqured toys from the third variety mainly come from Nakkapalli and Etikoppaka. These are usually miniature kitchen utensils to please children. Others include carts and pull toys. A training centre is being run for improved designs and this is expected to be converted into a co-operative very soon.

Tirupathi toys are distinguished by the red tinged dark wood which goes by the name of red sander. Stylised nudes are carved of these to retain the original colour of wood and represent art in its innocence often directly addressed to children. They vary in height, from 1 to 18 inches and during Navaratri in October the doll festival in the South will always include these in the display. To keep the tradition alive, a training centre is run to increase skilled hand craftsmanship. Efforts are being made to set up a co-operative, as well.

Carpet Weaving

Next to the toy industry, carpet weaving is most flourishing in Warangal and Eluru. This industry has deep roots as far back as 1857 when its rugs were famed to be the finest and were exhibited in London. They went by the name Deccan Rugs and were woven with cotton wool or silk yarn. The Eluru pile Carpet Weaver's Co-operative Society formed as far back as in 1937 has 130 members. But outside this co-operative fold as well, there are a number of carpet weavers. The quality of these was maintained taking care to specify suitable standards through the Indian Standards Institution in Delhi. With the quality worked out, attention is now being diverted to improving designs.

The inclusion of Hyderabad in the State, has added one more flourishing handicraft to its credit, i.e., bidri ware whose origin is traced to the art practised in Arabia and Persia of inlaying gold and silver on steel and copper. But the Indian craftsmen of Hyderabad have developed their own ware similar to this. They use an alloy of zinc mixed with small portions of non-ferrous metals which makes the metal look jet black. This gives a good ground for silver inlay. The traditional designs are now being adopted to suit new shapes. In this industry too, the artisans have got together to form a co-operative to share common facilities.

In the finer craftsmanship silver filigree work is widely done in the district of Karimnagar. Its exceedingly fine workmanship in costume and jewellery has won the interest of most people. There are about 150 artisans who exclusively work on this and have formed into a co-operative.

Mat Making

The less skilful of the handicrafts include mat making grass which is commonly practised in villages. The grass on the banks of the Tunga is said to have a golden freshness that particularly suits an artistic weave.

And in Yengonda, Mahaboobnagar district, it flourishes as a popular pastime. To develop this industry the Mat Makers' Co-operative Society has been formed to give production facilities etc. to the weavers.

What distinguishes the State of all these handicrafts is Nirmal work, or work of pure beauty which it means. The outstanding feature is the delicate designs that are used for decorating the articles and the hues that never tarnish. A production unit has been set up to increase the output of these articles.

Textiles shoot to focus the famous Himroo fabrics of Andhra. Its weaving technique employs the extra-weft designs on bright coloured grounds of satin or twill. Most of this is used as dress material for women's wear.

Lace Industry

In Narsapur and Palakole and another 60 villages in the taluk the lace weaving industry has cropped up and employs more than 5,000 persons, making table linnen etc. Exports of these has been estimated to the tune of 5 lakhs.

Other small industries include making of high grade glass beads at Papanaidupet in Chittor district, much of which is used in jewellery and embroidery known all over the country.

Ivory carving although not as fine as in Mysore, does, flourish and is localised in Visakhapatnam and Secunderabad.

This Versatile craftmanship that distinguishes the State will soon be setting the artisans in their original environment. In the Second Five Year Plan, a sum of Rs. 35.05 lakhs has been provided for the development of the handicrafts. Formation of co-operative Societies of artisans is being encouraged that they might share common facilities for improving their present set up. Sales Emporia have been sponsored for better sale and publicity, particularly in Tirupathi and Hyderabad. Two more will shortly be opened in Visakhapatnam and Warangal. Marketing depots in Vijayawada and Rajahmundry have been opened. A sum of Rs. 5 lakhs has been set aside to set up more Emporia in popular centres.

The possibilities of marketing are being studied for foreign exports and the Government of India is actively supporting the efforts.

Model Poultry Houses

Work will shortly start on a number of schemes for evolving cheap and suitable poultry houses to help make poultry rearing a commercially profitable enterprise thus encouraging large scale rearing of poultry in the country.

Programmes of work in this respect for U.P. and Orissa were approved by the Poultry Committee of the I.C.A.R. which also discussed a number of new schemes aimed at developing poultry farming, specially those for evolving ready to feed mixture, technical programmes of work and progress reports of current schemes at a recent meeting in New Delhi under the chairmanship of Dr. S. G. Iyer, Head of the Division of Poultry Research, Indian Veterinary Research Institute, Izatnagar, U.P.

Various types of poultry houses will be made at low cost using local materials. With the evolution of cheap poultry houses poultry keeping will come within easy reach of the people and result in raised production.

The Committee also approved the setting up of an organised Duck Farm in the Punjab where scientific methods of Duck breeding will be adopted to raise pure stock. This will be one of the first organised duck farms in the Northern region where fundamental research in breeding, feeding, housing and management of ducks will be carried out and training facilities in duck-keeping provided. Another scheme on duck breeding for Andhra Pradesh was also recommended by the Committee.

Handmade Paper in Assam

THE forest covered areas of Assam house the most natural facilities for a flourishing handmade paper industry whose 50-year old history traces many centres making quality paper here. Particularly in the North-eastern part of the State, raw materials like bamboo, sabai grass, daphna plant and hie creepers are found in abundance, the latter two being the most popular for use.

To-day about the Towang area, traces of the family profession are seen in the 100 families who still continue to make handmade paper by the old process and whose quality is said to be as good as the famed Tibetan paper.

The Buddhist temples particularly preserve all their religious literature on this and it is said that there are more than 100 books preserved thus that are fresh as ever to-day.

Although the industry got crippled mainly due to the import of mill-made paper and Nepali paper that was brought across the borders of West Bengal and Assam, there were a few centres carrying on the manufacture in Lakhimpur district. The one at Namphakial is still known for its quality product. Recently these centres have been making progress after the Nepal Government imposed a restriction on their paper being sold across the borders. Now the paper produced here is being entirely absorbed locally.

The Hie Creeper

Of the raw materials, the most commonly used for handmade paper is the popular hie creeper that coils up high. It is usually shredded off and the bark soaked in water to be beaten to sheets. Unlike this, the bamboo is difficult to convert to pulp and requires large quantities of caustic soda in the process, which is often found uneconomical. Besides, this entails the necessity of the soda recovery plant being attached to the factory. So, the paper making community often prefers the use of other raw materials like rags, daphna plant, sun hemp, waste paper etc. which can be worked easily and with small machines.

Assam has no paper mill. Handmade paper industry has a large employment potential and the work can be carried out both in the homes and the factories. It can not only be easily set up and developed, but also bring to the workers a wage of Rs. 1.50 or Rs. 2 a day. Training in the methods of manufacture will also be short terms, lasting 2-3 months and prepares the trainees for immediate employment.

Commission's Aid

In the marketing of the output, the Government could be the biggest purchaser, particularly of low grade handmade paper, with the price preference limit of 15 to 20 per cent. As high-grade paper is not produced in our country by the mills, quality handmade paper would easily find a ready and wide market.

In view of the possibility of developing the handmade paper industry, the Khadi and Village Industries Commission has advised the Government to introduce modern equipments and small machines for the manufacture of handmade paper in the Government run centre. The centre is likely to be transferred to the State Board.

The Khadi and Village Industries Commission has also granted funds for the starting of a big unit at Gauhati by the State Board. A centre for the making of cardboard has already been set up and 10 persons are being trained in it. Another grant has been given to the Development Commission and it is hoped that the centre will be established soon.

It has also been proposed to introduce paper making as a craft in three schools. Two of them have already started the craft with the aid of the grant sanctioned by the Khadi Commission.

The Commission has also appointed a technical supervisor for assisting the State Board for developing the handmade paper industry in the State.

SCIENCE AND LEATHER INDUSTRY

THE chain of national laboratories, which today number 19, was set up to harness scientific research in the service of agricultural and industrial development. A striking instance of the manner in which it is being done is provided by the practice of 'Open House' started last year by the Central Leather Research Institute at Madras. Every month a research result of practical significance to the leather industry is demonstrated before an audience, consisting of leather industrialists, and other professional and research technicians who are specially invited to the Institute for this purpose.

In this manner, more than a dozen processes have been brought directly before the critical and appreciative eye of the people actually connected with the leather industry, benefiting both the scientists engaged in research and technicians engaged in production.

The Central Leather Research Institute has the distinction of serving an industry which is one of the oldest in the country and which has its own position in the national economy. It not only provides employment to a large number of people spread all over the country, particularly in the rural areas, but also constitutes a valuable earner of foreign exchange, estimated at nearly Rs. 25 crores annually.

However, in spite of its age and importance, there remains a considerable scope for the development of leather industry in India along modern lines. So far it has existed in the form of mainly a decentralised cottage industry based upon, more or less, traditional knowledge and ways of production. There is in comparison with leather industries in Europe and America, a great scope of improvement in both quality and quantity of leather production in India. This defect is nowhere more in evidence than in the fact that at present we are exporting to foreign countries mostly raw skins and semifinished leather, and very little of finished leather and leather goods, which can admittedly bring in more returns.

If necessary technical knowledge is made available to the big or small entrepreneurs engaged in this industry, to enable them to convert all the raw material that we have into finished product, the leather industry is capable of earning double the foreign exchange than it is obtaining at present.

It were these factors, and the realisation of the role of research in the advancement of leather industry, that led the Indian Council of Scientific and Industrial Research to establish, in early 1953, the Central Leather Research Institute at Madras, which is one of the more prominent centres of leather trade.

The Institute had to start by reaching out to thousands of small-scale tanneries in the villages, studying their traditional methods and finding ways and means by which these methods could be improved.

A number of improvements in the tanning and leather-finishing processes developed at the Institute provide the measure of success attained by the Institute in its efforts.

In the process of tanning and leather finishing, several types of tanning stuffs and auxiliaries, such as oils, pigments, finishes, fat liquers, adhesives and polishes are essential. Although the traditional methods do not require many of them, these auxiliaries have gained importance with the introduction of advanced methods. At present, many of them are being imported. A single item like wattle-bark, which is imported from East Africa, costs us Rs. 1 crore annually.

Work done at the Institute has shown that these auxiliaries can be produced in the country. For example, fat liquers and adhesives prepared at the Institute are being regularly sold to tanners at competetive prices. Vegetable tan extracts, bates, shoe polish and stains produced at the Institute will soon be intro-

duced into a wider market. Arrangements are also being made to produce synthetic tanning agents and pigment finishes on pilot plant scale.

Some of the larger tanneries are already making use of these new processes and materials developed at the Leather Research Institute. The important thing, however, is to carry these benefits to the tanners in remote villages. In practically every village there are a few persons who are engaged in the tanning industry and their number adds up to at least 2,50,000. "Open House" is one way in which the Institute manages to establish contact with these people. Another way is the Institute's Technical Extension Service which tries to reach out to as large a number of persons engaged in this industry as possible.

Another important research result of the Central Leather Research Institute is the utilisation of leatherwaste, now being used as manure. Methods have been worked out to produce leather boards of desirable strength. thickness surface, etc. for use as insoles and in leather goods manufactured.

The Institute has also started a training centre for leather technologists. In co-operation with the Madras University, students are trained for a Degree in Leather Technology. A short-term practical training course in leather technology is alslo offered to practical tanners.

Bone Meal—A Boon to Agriculturists

Seenu R. Ramasubbu,

Gandhiniketan

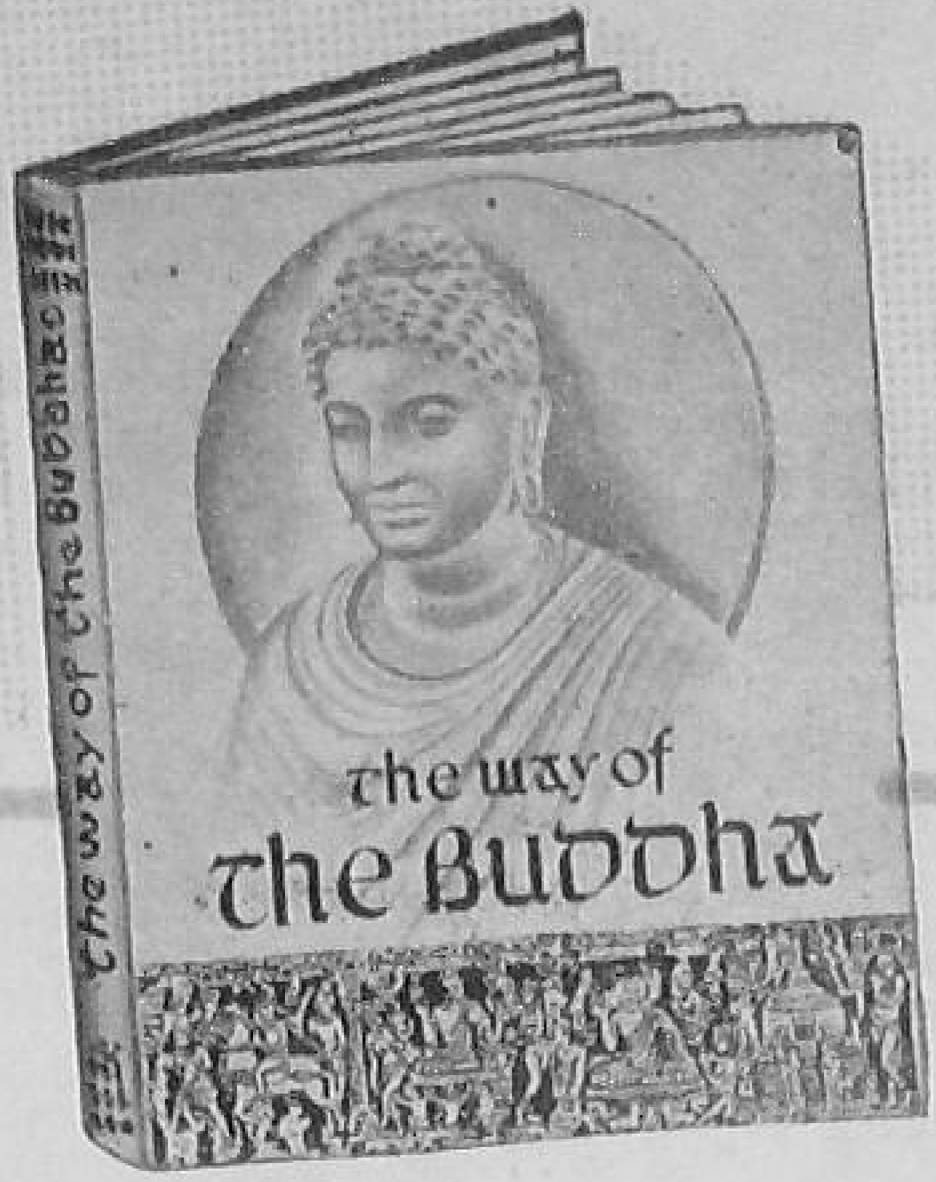
STEAMED Bone Meal, an organic manure, is an important fertiliser, rich in phosphoric acid. It is obtained by treating the bones with steam under pressure in a Bone Digester. It is useful for all soils. It is found that best results are obtained in acidic and aerated soils which have good drainage arrangements. The bone meal has particularly notable effects in soils which are well supplied with organic matter. It contains about 2.38% of nitrogen and 27.4% of phosphoric acid, and the presence of lime in it helps to reduce the acidity of the soil. It is well suitable for application to all crops such as paddy, wheat and other cereals, and also sugar cane, vegetables and fruits. At the same time, it lessens the agricultural expenditure when compared to other fertilisers, and also enriches the soil to a very great extent year by year on application. Steamed bone meal is much better than raw bone meal.

In spite of this very good fertiliser—an organic manure —other in-organic fertilisers such as ammonium sulphate are encouraged by agencies. The agriculturists must be educated on the use of this bone meal fertiliser and the Government should encourage the production as well as arrange for distribution amongst the agriculturists through the Block Development Officers and the District Agricultural Officers. To encourage the production, export of bones from India should be banned, which will facilitate easy availability of raw bones at normal rates. Now the rate of raw bones is very high and it is increasing day by day on account of export to foreign countries.

The Khadi and Village Industries Commission have arranged for running Carcass Recovery Centres and Bone Crushing Units on their behalf through Block Development Offices and registered institutions like Gandhi Niketan Ashram, etc. Steamed bone meal is produced in those Centres and the production is steady and progressive. The Gandhi Niketan Ashram. T. Kallupatti, Madurai Dt., in the South, has under its control six Carcass Recovery Centres at Watrap and Virudhunagar in Ramnad Dt., Saptur, Chinnamanur and Avantiapuam in Madurai Dt., and Kaduvali near Tiruvaiyaru in Tanjore Dt. Large stock of bone meal is available in the above Centres, and it is really a boon to agriculturists!

Mahila Samiti's Silk Weaving Centre in a Block (Assam)

The men of the hills help in producing a plentious crop of potatoes for use in the plains. The hill man with his Hooka in this picture seems quite satisfied with the day's work.



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